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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/623,005

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Laura Kramer

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EXAMINER

METZMAIER, DANIEL S

ART UNIT

PAPER NUMBER

1712

MAIL DATE

DELIVERY MODE

05/31/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/623,005	Applicant(s) KRAMER ET AL.	
	Examiner Daniel S. Metzmaier	Art Unit 1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-2 and 4-26 are pending.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 16 March 2007 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-2 and 4-19 rejected under 35 U.S.C. 103(a) as being unpatentable over Patel et al. (US 2004/0145088 A1), in view of Gelbart, US 6,328,408; Biegelsen et al, US 6,536,889; or Smith et al, US 6,132,021. Regarding claims 1-7, 11, 13, 14, 18; Patel et al. disclose a system for free-form fabrication of solid three-dimensional objects, a method thereof, and a three dimensional object produced, comprising applying a first composition (section 0024) including a reactive build material (section 0047) and ink-jetting a second composition including a curing agent (section 0054) separately onto a substrate such that contact between the reactive build material and the curing agent occurs (sections 0049-0050), thereby resulting in a reaction that forms a solidifying composition, and repeating these steps to form a solid three dimensional object (section 0062). Patel et al. do not appear to specifically disclose ink-jetting the first reactive material. Patel et al do disclose adjusting the viscosity of the first reactive material to a viscosity included in the range of the viscosity of the ink-jetted curing agent (sections 0053-0054). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have ink-jetted the first reactive material because Patel et al. teach that the first reactive material can have a viscosity that would enable ink-jetting, and ink-jetting would save time and produce a more controlled coating, resulting in a higher quality product.

Regarding claims 8-10 and 15-17, Patel et al. disclose the instantly claimed reactive build materials (section 0047).

Regarding claims 12 and 19, Patel et al. disclose adding at least one colorant (section 0017).

The Patel et al reference differs from the claims in the use of an interleaving process.

Gelbart (column 2 to 3, lines 63-20), Biegelsen et al (column 4, lines 10-29), and Smith et al (column 8, lines 15-31) all teach the use of interleaving processes in ink-jetting for the advantages of resolution, the use of a plurality of substances, multicolorant recording, and underprinting color.

These references are combinable because they teach ink-jet printing. It would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to employ an interleaving process in the methods of Patel for the advantage of improving the quality of the ink-jet product formed.

5. Claims 20-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patel et al. (US 2004/0145088 A1) , in view of Gelbart, US 6,328,408; Biegelsen et al, US 6,536,889; or Smith et al, US 6,132,021, each further in view of Russell et al. (6,375,874 B1). Patel et al., as applied above, are as set forth and incorporated herein. Patel et al. do not appear to specifically disclose a third and forth ink-jettable composition comprising the colors of cyan, magenta, and yellow. Russell et al. disclose a system and process comprising applying polymers by inkjet to produce a three-dimensional object, and that a typical inkjet printer is configured to deliver magenta, yellow, and cyan, so that when combined in various combinations and amounts, a variety of colors can be produced (col.11, lines 8-16). Therefore, it would have been

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obvious to one of ordinary skill in the art at the time the invention was made to have applied the commonly used colors of magenta, cyan, and yellow, as taught by Russell et al. in the system and process of Patel et al. because Russell et al. teach that using magenta, cyan, and yellow as colorants in polymers for the production of three dimensional objects through ink-jetting enables one to produce a variety of colors, resulting in a more versatile and higher quality product.

Response to Arguments

6. Applicant's arguments filed 16 March 2007 have been fully considered but they are not persuasive.

7. Applicants (pages 7-9) assert that the Patel et al reference lacks a teaching methods employing an interleaving process and the secondary references to Gelbart, Biegelsen or Smith lack a three-dimensional printing process. Applicants conclude the examiner has not met the initial burden for a case of *prima facie* obviousness. This has not been deemed persuasive since as set forth in the Patel et al reference, the three-dimensional articles disclosed are formed sequentially, i.e., by two dimensional printing methods and repeating successive layers.

One having ordinary skill in the art would not vacate the advantages of prior art printing practices because the articles resulting from the Patel et al processes are three-dimensional. Each sequential layer could be formed by a prior art printing process as disclosed within the Gelbart, Biegelsen or Smith references.

8. Applicants' reference to FIG. 2A and 2B do not appear to show the asserted three dimensional relationship asserted to distinguish the references. The figures

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appear to show a sequential two-dimensional build as disclosed in the Patel et al reference.

9. Applicants (pages 8 and 9) assert the claims 20-26 are also allowable for the reasons asserted regarding claims 1-2 and 4-19. These arguments have been addressed above.

Applicants further assert the since the article of claim 22 is made by the interleaving process that claim 22 to the article and the claims 23-26, dependent thereon should likewise be allowable for the reasons argued previously. This has not been deemed persuasive for the reasons set forth herein above. Furthermore, applicants have the burden of showing that the process imparts unobvious patentable distinction over the prior art articles.

10. Applicants request for a telephone interview is acknowledged. Applicants may contact the examiner after review of this Action to schedule said interview.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (571) 272-1089. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Daniel S. Metzmaier
Primary Examiner
Art Unit 1712

DSM